

UHPC BUKIDNON HYDRO POWER PLANT

BUKIDNON, REGION X, PHILIPPINES

Simple Drapery

Problem

The penstock, a critical structure for a Hydro Electric Power Plant in Bukidnon, is in danger from potential falling debris within the surface of a slope. The penstock was constructed to tap the water flow from the Maladugao River in Lampanusan, Kalilangan, Bukidnon and use it for power generation. It has a length of 400 meters located at the foot of a 12-meter high rock slope with a grade of 80-90 degrees.

Solution

The Maccaferri HEA panels (High Energy Absorption), Maccaferri DT Net, MacMat 12.1, and a Ø28 mm x 4 meters length of anchor spaced at 2.5 m x 2.5 m on the center were used due to its high-tensile capacity and excellent serviceability characteristics (low deformation) to mitigate rockfall hazards.

HEA Panels and Maccaferri DT Net was utilized to contain the potential movement of rocks with varying sizes, while the incorporation of MacMat 12.1 was used to prevent finer materials from detaching within the slope surface.

The whole stretch of the RC PIPE with a total slope area of 4800 sq.m was covered with Maccaferri Rockfall Protection System. Despite having difficulty in drilling the rock slope, the contractor finished the project on time thanks to the ease of installing the netting system and without waiting for any curing period.

Client: United Holdings Power Corp

Contractor: BMDK Construction and Supply Corp.

Products used (Qty.)

- HEA Panels	64 rolls, 5m x 15m
- DT Mesh	32 rolls
- MacMat	29 rolls
- HR Grips, Links and Caps	8mm - 400 pcs 12mm - 250 pcs

Date of construction: 04/2019 - 09/2019



Before Construction



During Construction



During Construction



During Construction



Completion